WHAT IS CLAIMED IS:

1. A method for preserving layer 2 address information or information replacing a layer 2 address of a client device which sourced a virtual private network packet, the method comprising:

a) determining a new layer 3 destination address based on at least a portion of a layer 3 destination address of the virtual private network packet; and

b) encapsulating the virtual private network packet with a layer 3 source address, the new layer 3 destination address determined, a layer 2 source address and a layer 2 destination address.

2. The method of claim 1 wherein the layer 3 source address corresponds to the layer 3 address of an ingress access router.

3. The method of claim 1 wherein the new layer 3 destination address determined corresponds to the layer 3 address of an egress access router.

4. A method for forwarding a virtual private network packet in which layer 2 address information or information replacing a layer 2 address of a device has been preserved, in which layer 3 destination address information has been preserved and which includes a second layer 3 destination address which corresponds to an egress access router, the method comprising:

a) de-encapsulating the virtual private network packet by removing the second layer 3 destination address;

b) determining a new destination layer 2 address based on (i) at least a portion of the preserved layer 3 destination address information, and (ii) at least a portion of the layer 2 address information or the information replacing the layer 2 address of the device; and

c) replacing a destination layer 2 address with the new destination layer 2 address determined.

5. A machine readable storage means having stored thereon a packet sourced from a client device which defined a layer 3 destination address for the packet and which includes a layer 2 source address and a layer 3 source address, the packet comprising:

a) a first field for storing data;

b) a second field for storing the layer 3 destination address defined by the source device;

c) a third field for storing a new layer 3 destination address.

6. The machine readable storage means of claim 5 wherein the new layer 3 destination address stored in the third field corresponds to a layer 3 address of an egress access router.

7. The machine readable storage means of claim 5 wherein the new layer 3 destination address stored in the third field is based on at least a portion of the layer 3 destination address defined by the source device.

8. The machine readable storage means of claim 5 wherein the packet further comprises:

d) a fourth field for storing a bit string associated with a port with which the client device sourcing the packet is associated.

9. The machine readable storage means of claim 8 wherein the new layer 3 destination address stored in the third field is based on at least a portion of the layer 3 destination address defined by the client device sourcing the packet and at least a portion of the bit string stored in the fourth field.

10. The machine readable storage means of claim 8 wherein least a portion of the unique bit string stored in the fourth field represents one or more services for which the client device sourcing the packet is authorized.

11. The machine readable storage means of claim 8 wherein least a portion of the unique bit string stored in the fourth field represents a multicast group to which the client device sourcing the packet belongs.

12. The machine readable storage means of claim 8 wherein least a portion of the unique bit string stored in the fourth field represents a service level with which the client device sourcing the packet is subscribed.

13. The machine readable storage means of claim 8 wherein least a portion of the unique bit string stored in the

fourth field represents a location of a logical ingress port.

14. The machine readable storage means of claim 8 wherein least a portion of the unique bit string stored in the fourth field corresponds to a VPN-OUI.

15. The machine readable storage means of claim 8 wherein least a portion of the unique bit string stored in the fourth field corresponds to a VPN-INDEX.

16. An apparatus for routing virtual private network packets, each of the packets including layer 2 address information or information replacing a layer 2 address of a client device which sourced a virtual private network packet, the apparatus comprising:

a) a table including a layer 3 destination address of the virtual private network packet and an associated layer 3 address of an egress access router;

b) means for determining a new layer 3 destination address based on the contents of the table; and

c) means for encapsulating the virtual private network packet with the new layer 3 destination address determined.

17. A machine readable medium having stored thereon a data structure, the data structure having a plurality of records, each of the records comprising:

a) a first field for storing a layer 3 destination address; and

b) a second field for storing a layer 3 address of an egress access router associated with layer 3 destination address of the first field,

wherein the egress access router is a router at the edge of a network.

18. The machine readable medium of claim 17, each of the records further comprising:

c) a third field for storing a string of bits in the place of a layer 2 address associated with the client device which sourced the virtual private network packet.